

CLAIMS

Please amend the claims as indicated below:

1-10. (canceled).

11. (currently amended) A method of making a glass shape tube comprising a step of providing a heating chamber, the heating chamber having a single inlet, and a single outlet, and a hollow inner forming tube extending from the vicinity of the outlet, within an inside dimension of the outlet, through a gland in a wall of the chamber, a step of pushing a solid glass rod into the inlet, and a step of pulling a shape tube from the outlet, wherein the inlet comprises a heated cone having a diameter less than the diameter of the solid glass rod, the cone melting the exterior of the rod and forming a molten glass seal at the inlet.

12. (currently amended) A method of making a glass shape comprising a step of providing a heating chamber, the heating chamber having a single inlet and a single outlet, and a step of pushing a solid glass rod into the inlet, wherein the inlet comprises a heated cone forming a restriction having a diameter less than the diameter of the solid glass rod, the cone melting the exterior of the rod and forming a molten glass seal at the inlet.

13. canceled.

14. (currently amended) The method of claim 43 12 wherein the rod has a diameter, which varies at least 0.5% and no more than 5%.

15. (original) The method of claim 14 wherein the inlet has a diameter 0.5% to 5% smaller than the smallest diameter of the rod.

16-26. (canceled).

27. (currently amended) An apparatus adapted to form a hollow tube, the apparatus comprising a heated chamber having an outlet, a die in the outlet, and a hollow inner forming tube extending from the vicinity of the outlet, within an inside dimension of the die, through a gland in a wall of the chamber, the inner forming tube being connected to a source of pressure or vacuum, the pressure or vacuum being controllable to affect at least one dimension of the shape.

28. (original) The apparatus of claim 27 further comprising an adjustment device operatively attached to a part of the hollow inner forming tube outside the chamber.

29. (original) The apparatus of claim 28 wherein the inner forming tube is straight, the apparatus further comprising an inlet passage having an axis parallel to the inner forming tube and offset from the inner forming tube.

30. (original) The apparatus of claim 27 wherein the chamber is filled with molten glass, the glass being cooler adjacent the gland and adjacent the die than the average temperature of the glass in the chamber, the gland forming a seal of glass between the inner forming tube and an opening in a wall of the chamber.

31. (original) An apparatus for feeding glass rod sections comprising a plurality of feed drives, at least one of the feed drives being biased into engagement with the rod, a sensor for detecting rod section ends, and a

mechanism for varying the bias of the at least one feed drive in response to the sensor to protect the rod ends.

32. (original) The apparatus of claim 31 wherein the rod ends are abutting.

33-36 (canceled).

37. (previously amended) A method of controlling the rate at which a solid rod of heat-softenable material is fed through a heated restriction, the restriction softening at least an outer portion of the rod, the method comprising a step of determining changes in temperature at the restriction, and a step of controlling the rate of feeding the rod in response to changes in temperature at the restriction, wherein the restriction is the inlet of a melting chamber.

38. (currently amended) The method of claim 34 37 wherein the melting chamber includes an outlet, the material forming a draw down at the outlet.

39-63 (canceled).

Please add the following claims 64-69:

64. (new) The method of claim 11 wherein the rod is substantially horizontal as it enters the melting chamber and the tube is substantially horizontal as it exits the melting chamber.

65. (new) The method of claim 64 further comprising a step of determining changes in the diameter of the rod, and a step of controlling the speed of feeding the rod in response to changes in the diameter of the rod.

66. (new) The method of claim 12 wherein the rod is substantially horizontal as it enters the melting chamber and the shape is substantially horizontal as it exits the melting chamber.

67. (new) The method of claim 11 wherein the step of pushing a solid glass rod into the inlet comprises feeding the rod into the inlet with sufficient force to produce a pressure in the chamber which suppresses formation of air bubbles or air channels in the glass in the chamber.

68. (new) A method of continuously making a glass tube free of airlines in the tube wall, the method comprising

providing a heating chamber, the heating chamber having a single inlet, a single outlet, and a hollow inner forming tube extending from the vicinity of the outlet, within an inside dimension of the outlet, through a gland in a wall of the chamber, the heating chamber being filled with molten glass and being substantially free of gas,

a step of pushing a horizontal solid glass rod into the inlet, and

a step of pulling a horizontal tube from the outlet,

wherein the inlet comprises a heated cone having a diameter less than the diameter of the solid glass rod, the cone melting the exterior of the rod and forming a molten glass seal at the inlet, and

wherein the step of pushing a horizontal tube into the inlet of the chamber is with sufficient force to produce a pressure in the chamber which suppresses formation of air bubbles or air channels in the glass in the chamber.

69. (new) The method of claim 68 wherein the solid glass is fed at a force of above about five kilograms.